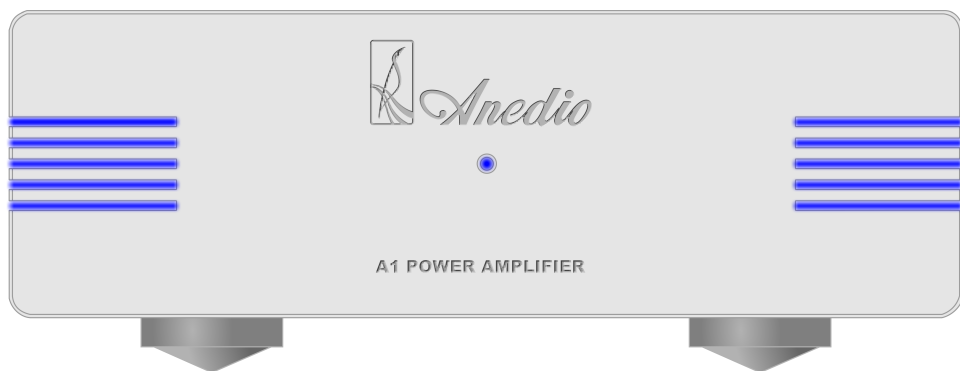




# **A1 Stereo Power Amplifier**

## **Operating Manual**



## Welcome

Thank you for purchasing the Anedio A1 Power Amplifier!

Anedio is founded upon the principle that the enjoyment of highest-quality music should be available for everyone, not just for the esoteric few. Our quest is to attain the most realistic and faithful reproduction of music, enabling the listener to experience its beauty, pathos, joy, and delight more fully. At the same time, we strive to make our products affordable by focusing on the essentials and using the most cost-effective technologies. The result, we believe, is a unique combination of sonic excellence and superb value.

The Anedio A1 Power Amplifier offers vanishingly low distortion — 0.0007% THD+N and 0.0002% IMD at 70W into 8 ohms. Such a level of performance is achieved, not merely in an ideal bench-top setup, but in real systems found in typical homes. Our exquisitely-tuned symmetric circuit keeps the hum and noise well below the threshold of audibility. You will experience an extraordinary level of sonic transparency that heightens the emotional impact of music.

The Anedio amplifier is exceptionally adept at handling real loudspeaker loads. It is perfectly stable driving a 2uF capacitor, just about the worst capacitance that may be encountered. Even the most complex and dynamic musical passages are produced with effortless speed and authority.

Moreover, quality components are used judiciously throughout critical paths, such as gold-plated connectors, a magnetically-shielded toroidal power transformer, 0.5% precision film resistors, polypropylene capacitors, and high-reliability supply capacitors.

All of this is packaged in a solid aluminum enclosure, with all non-ferromagnetic material for the lowest inductance. It is tightly coupled to an internal copper heat spreader, which together act as a rigid structure, immune to acoustically-induced vibrations.

We hope you will experience many years of joy and pleasure in listening to music.

## Important Safety Instructions



The lightening symbol within an equilateral triangle is intended to alert the user to the presence of un-insulated dangerous voltage within the product's enclosure that may constitute a risk of electric shock.



The exclamation mark within an equilateral triangle is intended to alert the user to important operating and maintenance instructions.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



**WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing, and no objects filled with liquids, such as vases, shall be placed on the apparatus.

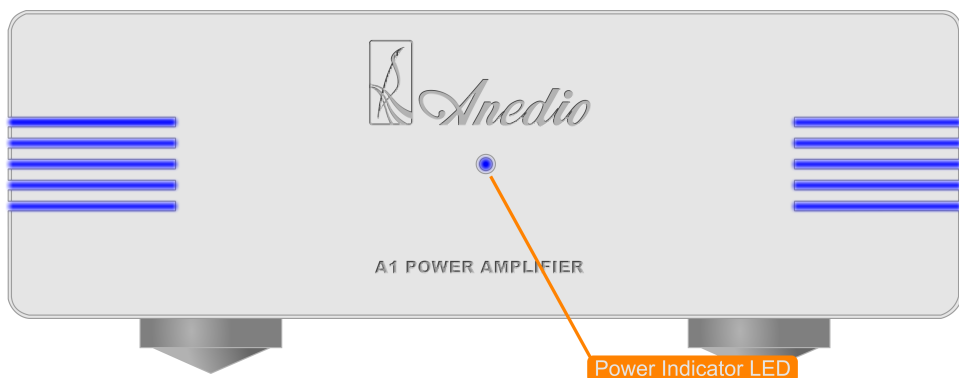
To completely disconnect this equipment from the ac mains, disconnect the power supply cord plug from the ac receptacle. The mains plug of the power supply cord shall remain readily operable.

## Setting Up

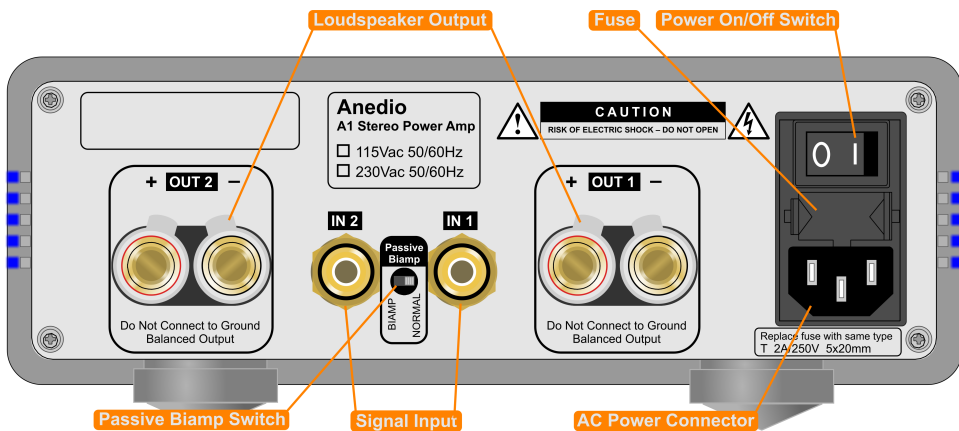
### Package Contents

- Model A1 Stereo Power Amplifier
- AC Power Cord, 16 AWG
- Extra Fuses
- User Manual
- Measurements of Each Unit

### Front Panel



### Rear Panel



## Setting Up

### Placement of the Amplifier

Place the amplifier *between the two loudspeakers*, instead of setting it off to one side. This keeps the lengths of interconnects and speaker cables short for optimal sonic performance.

Remember that the ideal cable is no cable. *The signal can never be improved by going through a longer cable.* As you shorten the cable length, the signal fidelity approaches that of the ideal cable. The best practice, therefore, is to keep the cables as short as possible by placing the amplifier between the loudspeakers.

Make sure that there is enough space around the amplifier for ventilation, and do not block the ventilation slots on the top of the amplifier. We recommend at least 3 inches of space on the top.

### Connecting Interconnects and Cables



Before connecting, turn off the power to all the components in your system.

**Input:** Connect the left and right channels to the line-level source using a pair of RCA interconnects.

Extravagant interconnects with exotic materials are unnecessary. Two characteristics, however, are important: (a) low shield (outer conductor) resistance; (b) robust mechanical design for reliable electrical contact.

**Output:** Connect loudspeaker cables to multi-way binding posts that can accept banana plugs or stripped wires.

Again, extravagant cables with exotic materials are unnecessary. As long as the length is kept short by placing the amplifier between the loudspeakers, a 14 AWG cable or thicker will be sufficiently transparent. The shorter the cable, the more transparent your system will be.

For those concerned with EMI (Electromagnetic Interference), star-quad cables will significantly improve immunity to external interferences.

Polarity of loudspeaker connection is critical to the quality of imaging. Check the positive and negative terminals of the amplifier

and those of the loudspeakers.



Never connect the output terminals to the chassis or to the ground. This will cause a short circuit and may damage the amplifier. The outputs are balanced, i.e., both positive (+) and negative (-) terminals move differentially with respect to the ground, and they are not to be shorted to the ground.

## Connecting Power Cord

For the lowest ground noise and hum, it is highly recommended that the power cords of all components be connected to *a single point* — usually a single surge protector with multiple outlets. This keeps all components referenced to a single point, as far as it is practically possible, thus minimizing the differences in ground potentials among the components.



Never use a 3-prong-to-2-prong adapter to fix a ground loop problem. This will disable the safety earth ground and may cause electric shocks.

## Isolating Cable TV Ground

If you have a cable TV connected to your audio system, ensure that the cable ground is galvanically isolated from the audio ground. The cable TV ground, tied to the earth outside your home, is at a significantly different potential and can cause audible hum if it is not isolated properly. If you suspect this is the case, insert a cable TV ground isolator *inside your home*, just before your cable set-top box or TV RF input.

## Surge Protectors

A surge protector is strongly recommended so that the components are protected from large power lines spikes, which can occur, for instance, from lightning strikes.

## Power Switch

The power switch is located in the back panel. Toggle the switch to the “1” position to turn power on. To turn power off, toggle the switch to the “0” position.



When turning on and off your music system, the power amplifier should be the last component to be turned on and the first component to be turned off. This prevents power on/off transients from being transmitted to loudspeakers.

## Power Indicator LED

The **blue** LED light at the center of the front panel, along with the blue side bars, indicate that power is on.

When the center LED indicator switches to **purple**, it most likely means that the amplifier has detected a short circuit at the output.

**Immediately turn off the power switch. Clear the short-circuit condition.** Examine carefully if any exposed part of the loudspeaker cables is shorted together or touches the enclosure.

Only after the short-circuit condition is cleared, turn the power switch on. If the problem persists, please see the trouble shooting section.

## Check the Phase

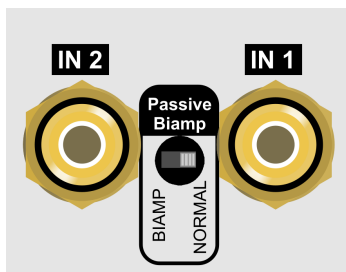
After the audio system is set up, double check the phase (or polarity) of the loudspeaker connection by listening to a phase test CD or soundtrack.



## Passive Bi-amp Mode

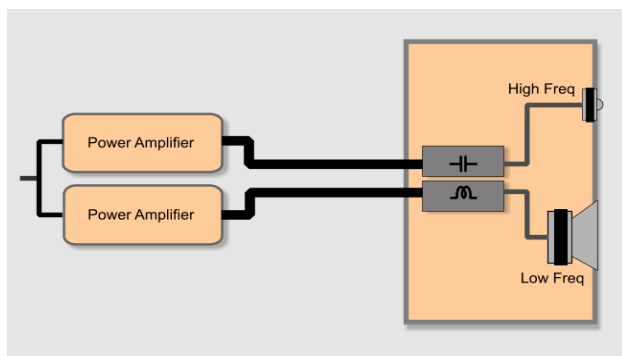
### Normal (Stereo) Mode

For normal (stereo) operation, set the bi-amp switch to “NORMAL.” This is the default setting. The switch is intentionally recessed so that its setting cannot be changed accidentally.



### Why Passive Bi-amplification?

Passive bi-amplification can improve the sonic quality of the system in a subtle but significant way. The Anedio A1 Power Amp is conceived specifically to take full advantage of the benefits of passive bi-amplification.



In the passive bi-amp mode, two amplifier channels are used to drive a single loudspeaker, one channel for the low frequency path and another for the high frequency path. The two paths are now completely isolated from each other, and any potential interaction between the two paths is eliminated. The resulting improvement

can be significant, revealing another layer of sonic information.

We believe that a pair of amplifiers with moderate current capacity, when used in passive bi-amplification, is sonically superior to a single amplifier with massive current capacity. For more information, please see “Bi-wiring and Bi-amplification” on [www.anedio.com](http://www.anedio.com).

## Benefit of Anedio’s Implementation

Anedio’s implementation of passive bi-amplification offers an important benefit — **immunity to ground-loop noise when two amplifier channels are tied to a single input.**

A pitfall in bi-amplification is the potential ground loop introduced when the two inputs of the stereo channels are tied together. Depending on how the amplifier grounding system is designed, the additional ground noise can be quite high. That is why, in some systems, passive bi-amping actually degrades the sonic quality.

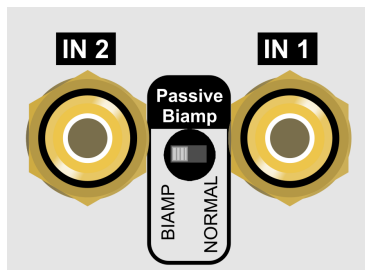
In the A1 Amp, the bi-amplification feature was conceived at the very beginning of the design stage, not as an afterthought, and is optimized for the lowest ground noise. Even when the two amplifier channels are configured for bi-amplification, the noise level remains extraordinarily low. Moreover, the bi-amplification mode is activated with a built-in switch, and there is no need for an external Y cable.

## Setting Passive Bi-amp Mode



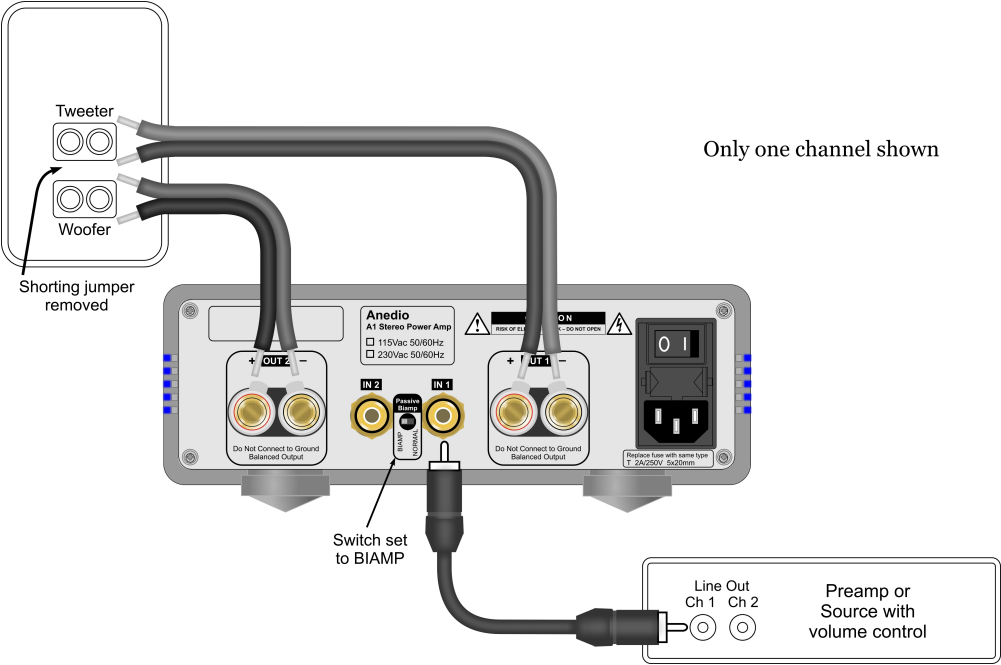
Before changing the switching setting, turn off the power to the A1 Amplifier.

For passive bi-amp operation, use a small flat screw driver to slide the switch to “BIAMP” as shown below.




Connect the input signal to *either* IN1 or IN2 (but *not both*, since

IN1 and IN2 are internally connected together in the passive bi-amp mode).



Please note that this mode can be used only for those loudspeakers that have separate terminals for low and high frequency drivers. Two A1 Amplifiers are required for a stereo setup in the passive bi-amp mode.



Make sure that the shorting jumpers across the high and low frequency drivers of the loudspeakers are removed for the passive bi-amp operation. Leaving the shorting jumpers in the passive bi-amp mode may damage the amplifier.

## Specifications

Continuous Power Output:	70 watts per channel (8 ohms) 75 watts per channel (4 ohms) Both channels driven simultaneously
Dynamic Power Output (CEA-2006):	90 watts per channel (8 ohms) 105 watts per channel (4 ohms) Both channels driven simultaneously
Total Harmonic Distortion + Noise:	0.0007% @ 1KHz (60W into 8 ohms) 0.0010% @ 1KHz (70W into 4 ohms)
Intermodulation Distortion:	0.0002% @ 19KHz + 20KHz 2nd order IMD (60W into 8 ohms)
Signal-to-Noise Ratio:	96 dB, A-weighted (1W into 8 ohms) 114 dB, A-weighted (70W into 8 ohms)
Gain:	26.5 dB
Phase:	Non-inverting
Frequency Response:	4 Hz - 140 KHz (-3dB)
Slew Rate:	50 V/us
Channel Separation:	115 dB @ 1KHz 95 dB @ 20KHz
Peak Output Current:	10 Amperes
Minimum Load:	4 ohms
Input Impedance:	41 Kohms
Output Impedance:	0.15 ohms @ 1KHz 0.16 ohms @ 20KHz
Output Offset:	35 mV max
Input:	Single-ended, RCA jacks with gold-plated contacts and Teflon dielectric
Output:	Balanced outputs, gold-plated insulated binding posts
Power Consumption:	14 W with no signal
Dimensions (W x H x D):	9.0 x 3.4 x 13.0 inches (229 x 86 x 330 mm)
Weight:	17 lbs (7.7 Kg)

Trouble Shooting

Symptoms	Remedy
No power	<ul style="list-style-type: none"><li>• Ensure the power cord is plugged in fully.</li><li>• Check the fuse. If blown, ensure that the outputs are not shorted. Replace it <b>only with 2A/250V 5x20mm time-lag (slow-blo)</b>. Using an incorrect fuse will void the warranty.</li></ul>
Power on but no sound	<ul style="list-style-type: none"><li>• Ensure that the source component is turned on.</li><li>• Ensure that the interconnects and cables are plugged in fully and seated properly.</li></ul>
LED indicator changed to purple	<ul style="list-style-type: none"><li>• Immediately turn off the power.</li><li>• Ensure that the output terminals and the loudspeaker terminals are not shorted.</li><li>• (In the passive bi-amp mode only) ensure that the high and low frequency drivers of the loudspeakers are not shorted together.</li><li>• Once the short-circuit condition is cleared, wait about 1 minute and turn on power.</li></ul>
Hum	<ul style="list-style-type: none"><li>• Ensure that all components are connected to a single power strip.</li><li>• If there is a cable TV or antenna connection, ensure that the cable/antenna grounds are galvanically isolated from the audio ground. This may require inserting a ground isolator.</li></ul>
Diffused stereo imaging	<ul style="list-style-type: none"><li>• Ensure that the loudspeaker phase is not inverted.</li></ul>
Mono sound	<ul style="list-style-type: none"><li>• For “normal” (stereo) mode, ensure that the passive bi-amp switch is set to “normal.” If it is unintentionally set to “biamp,” the resulting sound will be mono.</li></ul>

If the problem persists, please contact Anedio via the Contact page at [www.anedio.com](http://www.anedio.com).



**WARNING:** Repairs are to be performed by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions.



**WARNING:** Do not attempt to remove the cover, as doing so will break the tight thermal bond between the heat spreader and the cover.

## Warranty & Repair

### One-Year Limited Warranty

Anedio warrants this product to be free from defects in materials and workmanship, subject to the terms set forth below, for periods up to one year from the date of original purchase. The warranty includes parts and labor.

Anedio will remedy the problem by repair or replacement, as we deem necessary, to restore the product to full performance. Anedio will pay the shipping cost one way (the return portion).

This warranty does not cover cosmetic damage or damage due to accident, misuse, abuse, negligence while in the possession of the customer.

Tampering by persons other than factory-authorized service personnel or failure to fully comply with the operating instructions specified in the manual will void the warranty. Any unauthorized disassembly, component replacement, or modifications performed to the product will void the warranty.

The warranty is transferable from the original owner to a subsequent owner as long as a copy of the bill-of-sale from Anedio accompanies the re-sale.

### Repair

In the event of a defect or malfunction, contact Anedio for return authorization (via the Contact page at [www.anedio.com](http://www.anedio.com)). Unauthorized returns will not be accepted.

Products must be returned using *original packaging material only*. Anedio is not responsible for damages incurred during transit if the original factory packaging is not used. The packaging material may be purchased from Anedio if necessary.